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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,851	12/21/2000	Chifei Wei Cheng	CISCP648	2199

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EXAMINER

PATEL, HARESH N

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 01/23/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,851

Applicant(s)

CHENG, CHIFEI WEI

Examiner

Haresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-20 are presented for examination.

#### ***Response to Amendments***

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendments to the claims.

#### ***Information Disclosure Statement***

3. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 7, is attached to the instant Office action. Examiner makes a note that the applicant did not submit this IDS; which has indeed guide the applicant for the modification to the existing system. Since the date of the e-mail of the submitted IDS (paper number 7) is 20 April 1998, applicant was suppose to submit this IDS (paper number 7) with the first submitted IDS, i.e., July 9 2001, paper number 4. Also considering the date of the IDS (paper number 7), applicant was supposed to consider it as a well-known item. All the prior art contents from the "DETAILED DESCRIPTION OF THE INVENTION" section of the disclosure were suppose to be part of the "Description of Related Art" sub-section of the "BACKGROUND OF THE INVENTION" section. Applicant also has failed to provide sufficient IDS containing the messages SABME, UA, DISC, UA, etc., and all the prior and copending patents related to the claimed invention.

#### ***Claim Rejections - 35 USC § 103***

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA, Application specification pages, page 1, line 6 – page 2, line 5) in view of Mike Fontenot, MCI, e-mail, SVC Layer 2 Disconnect, Private Communication regarding SVC layer 2 Disconnect, April 20, 1998, IDS, paper number 7 (Hereinafter MCI) and "Official Notice".

6. As per claims 1-20, AAPA teaches the following:

a method, a computer program product, a first device and an apparatus for a first device to establish a link between the first device and a second device, comprising,

a first device, a second device, communication between two devices, messages to connect, disconnect, acknowledge, etc., ITU Recommendation Q.921 defined messages, i.e., a DISC (disconnect) message, SABME message for requesting establishment of the link, transmitting a .921 disconnect request message from the first device to the second device, disconnect request message comprises a DISC message as specified by ITU Recommendation Q.921, ITU Recommendation Q.922 (e.g., figures 1 and 2, The present invention relates generally to a system and method for extending the ITU Q.922 LAPF (link access procedures for Frame Mode bearer services) virtual circuit disconnect logic. More specifically, a system and method for extending and modifying the ITU Q.922 LAPF disconnect logic to remedy or alleviate instances of unsynchronized virtual circuit establishment are disclosed, Frame Relay is

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a packet switching protocol for connecting devices on a wide area network (WAN). Frame Relay operation is in part specified by ITU Recommendation Q.922 (Geneva, 1992) entitled "ISDN Data Link Layer Specification For Frame Mode Bearer Services" published by the ITU.

Recommendation Q.922 relates to the Digital Subscriber Signaling System No. 1 (DSS 1) data link layer and specifies the frame structure, elements of procedure, format of fields and procedures of the data link layer to support frame mode bearer services in the user plane (L1-plane) as defined in ITU Recommendation 1.233 (frame mode bearer services),

Recommendation Q.922 contains a deficiency in that it is possible to have instances of unsynchronized SVC establishment due to one device going through system reboot and shutting down all active SVCs while a peer device believes that these SVCs are still active. To mitigate this deficiency, it has been suggested that, at the first attempt of bringing up the L2 (layer 2) link during system re-initialization, a DISC (disconnect), message be transmitted prior to the specified transmission of a SA13ME (Set Asynchronous Balanced Mode Extended) message.

The SABME message is in essence a message for requesting establishment of the link. The SABME and DISC messages are defined by ITU Recommendation Q.921. According to this proposed solution, the DISC message is transmitted in all situations in which link layer services (LAPF) are restarted, page 1, line 6 – page 2, line 5).

However, AAPA does not specifically mention about resolving the problem of data link reestablishment.

MCI teaches the following:

transmitting a .921 disconnect request message from the first device to the second device in response to a management plane data link establish establishment request; and thereafter

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to fulfill said data link establishment request, transmitting a .921 request for connection to establish link message from the first device to the second device upon one of expiration of an awaiting-response timer, receiving a Q.92.1 disconnect mode message from the second device, or receiving an a Q.92.1 acknowledgement message from the second device, the disconnect request message transmitted by the first device to the second device includes a poll bit, an awaiting-response-to-the-disconnect-message flag, after transmitting the disconnect request message to the second device and upon receiving an acknowledgement message from the second device, determining if the awaiting-response-to-the-disconnect-message flag is set, wherein the first device transmits the request for connection to establish link (e.g., Subject: SVC Layer 2 Disconnect, I talked to the Frame Relay Forum member who developed the Data Link Reset contribution. The suggested mechanism presented in this contribution will be included in Annex D of FRFA.I . I've included the text from Annex D below. It is recommended that the Disconnect be sent in all situations in which LAPF is restarted, including cold boots, warm boots, slot resets, NMS intervention, and physical outages. There is one exception to issuing the Disconnect. In the case where the remote side stops responding to RRs, the local side will send 4 RRs, 4 SABMEs, will disconnect any active connections, and then may send periodic SABMEs. The remote side may respond to one of the periodic SABMEs and initialize LAPF. In this case LAPF will be initialized without the issuance of a layer 2 disconnect, Annex D below refers to Annex B restart procedures. These restart procedures are based on X.36 and are not supported in an FRFA Q.933 based implementation, ANNEX D SYSTEM REINITIALIZATION PROCEDURES, The preferred method of resetting the UNf is to use the RESTART procedures in Annex B. However, in some cases the peer device may not downlevel or not have implemented the RESTART

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procedures in this agreement. As an option, devices that have lost all SVC calls (e.g., due to system re-initialization, or other events) may send a DISC P=I to the peer and wait for a UA F=1 after system re-initialization and before they proceed with data link re-establishment (e.g., SABME/UA, etc.). This action will trigger a DLRELEASE INDICATION to the peer layer 3 which causes the peer layer 3 to clear all SVC calls. In addition, it is strongly recommended that such devices support and use the RESTART procedures immediately following data link re-establishment, Thanks Mike, i.e., Mike Fontenot, MCI, e-mail, SVC Layer 2 Disconnect, Private Communication regarding SVC layer 2 Disconnect, April 20, 1998, IDS, paper number 7 ).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of AAPA with the teachings of MCI in order to facilitate proper disconnection between the two devices by removing all connection settings using a sequence of messages before a connection is reestablished.

However AAPA and MCI do not specifically mention about the minor details that are used for proper disconnection between two devices, i.e., a poll bit set to 0, setting an awaiting-response-to-the-disconnect-message flag, the first device to transmit the request for connection to establish link message to the second device upon receiving an acknowledgement message from the second device only if the awaiting-response-to-the-disconnect-message flag is set. "Official Notice" is taken that both the concept and advantages of providing the mechanism, i.e., setting bit and flag of messages and message orders for proper disconnection is well known and expected in the art and would be an obvious design choice to set poll bit, an awaiting-response-to-the-disconnect-message flag and a message sequence between two devices before a reconnection is done.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to include setting a poll bit, an awaiting-response-to-the-disconnect-message flag and establishing a message sequence between two devices with the teachings of AAPA and MCI in order to facilitate proper disconnection between the two devices by removing all connection settings using a sequence of messages before a connection is reestablished.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

January 13, 2004



**JOHN FOLLANSBEE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**